

REMARKS

Claims 5, 6, 11 and 15 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 2,731,919 to Prendergast (hereinafter “Prendergast”). Claim 7 was rejected under 35 U.S.C. §103(a) as being unpatentable over Prendergast in view of legal precedent. Claim 9 was rejected under 35 U.S.C. §103(a) as being unpatentable over Prendergast in view of legal precedent. Claim 14 was rejected under 35 U.S.C. §103(a) as being unpatentable over Prendergast in view of design choice. Claims 8, 10 and 12 to 13 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims.

Reconsideration of the application based on the following remarks is respectfully requested.

35 U.S.C. §102 Rejections

Claims 5, 6, 11 and 15 were rejected under 35 U.S.C. §102(b) as being anticipated by Prendergast.

Prendergast discloses a pump or motor comprising “a rotor 4 which is surrounded by a stator 5. The rotor is circular in form and is provided around its outer periphery with an even number (sixteen) of equidistant radial slots in each of which a vane 6 is free to slide.” (Col. 2, lines 9 to 13).

Claim 5 recites “[a] pump comprising:
a double-stroke delivery contour, the delivery contour having at least one rise zone, at least one large circle region, at least one fall zone, and at least one small circle region, and,
a rotor within the delivery contour, the rotor having radially displaceable vanes in radial rotor slots,

an angular range of the large circle region of the delivery contour being lengthened, wherein the large circle region is greater than the fall zone.”

Prendergast fails to teach or show “an angular range of the large circle region of the delivery contour being lengthened, wherein the large circle region is greater than the fall zone,” as required by claim 5. The Office Action cites to annotated Fig. 5 on page 3 of the Office Action asserting it is inherent that “the large circle region of the delivery contour is greater than the fall zone.” However, this is still not true. Prendergast does not teach the range of the large circle region or the fall zone. The asserted regions in the Office Action are not defined in Prendergast and are lines drawn by the Examiner without available values of the region size. The difference in size between the fall zone and the large circle region are not distinguishable based on the lines provided by the Examiner. Furthermore, it is not inherent that the large circle zone is larger than the fall zone as prior art teaches away from such a teaching as shown in Fig. 1 of the present application. Therefore, Prendergast does not meet all of the limitations of claim 5 and cannot render claim 5 unpatentable as anticipated by Prendergast.

Withdrawal of the rejections of independent claim 5 and claims 6, 11 and 15, which are directly dependent on claim 5, under 35 U.S.C. §102(b) is respectfully requested.

35 U.S.C. §103 Rejections

Claim 7 was rejected under 35 U.S.C. §103(a) as being unpatentable over Prendergast in view of legal precedent.

Prendergast is discussed above.

In light of the discussion above with respect to claim 5, withdrawal of the rejection to dependent claim 7 is respectfully requested.

Furthermore, it would not have been obvious to one of skill in the art to modify Prendergast to include “wherein the pump is a 10 vane pump and the large circle region of the delivery contour on one side is between 48 and 51 degrees” as recited in claim 7. Prendergast does not provide any value for the large circle. The Office Action asserts “where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.” The range established in claim 7 is not a

workable range found by routine experimentation. The criticality of the extension of the large circle range of claim 7 is explained in the specification: it shortens the compression region from the prior art and lengthens the pressure equalization process. (Specification, page 2, paragraph [0005], lines 6 to 9). Nothing in Prendergast even suggests the optimization of the large circle range. MPEP 2144.05 II A.

For this additional reason, withdrawal of the rejection to claim 7 under 35 U.S.C. §103(a) is respectfully requested.

Claim 9 was rejected under 35 U.S.C. §103(a) as being unpatentable over Prendergast in view of legal precedent.

Prendergast is discussed above.

In light of the discussion above with respect to claim 5, withdrawal of the rejection to dependent claim 9 is respectfully requested.

Furthermore, it would not have been obvious to one of skill in the art to modify Prendergast to include “wherein the pump is a 12 vane pump and the large circle region of the delivery contour on one side is between 51 and 55 degrees” as recited in claim 9. Prendergast fails to teach such a range. The Office Action asserts “the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.” The range established in claim 9 is not a workable range found by routine experimentation. The criticality of the extension of the large circle range in claim 9 is explained in the specification: it shortens the compression region from prior art and lengthens the pressure equalization process. (Specification, page 2, paragraph [0005], lines 6 to 9). Nothing in Prendergast even suggests the optimization of the large circle range. MPEP 2144.05 II A.

For this additional reason, withdrawal of the rejection to claim 9 under 35 U.S.C. §103(a) is respectfully requested.

Claim 14 was rejected under 35 U.S.C. §103(a) as being unpatentable over Prendergast in view of design choice.

In light of the discussion above with respect to claim 5, withdrawal of the rejection to dependent claim 14 is respectfully requested.

Allowable Subject Matter

Claims 8, 10 and 12 to 13 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims.

In light of the discussion above with respect to claims 5, 7 and 9, withdrawal of the objections to claims 8, 10 and 12 to 13 is respectfully requested.

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CONCLUSION

It is respectfully submitted that the application is in condition for allowance and applicants respectfully request such action.

If any additional fees are deemed to be due at this time, the Assistant Commissioner is authorized to charge payment of the same to Deposit Account No. 50-0552.

Respectfully submitted,
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